

COBALT™ S1901 PLATFORM



Application Ready Platform for Defense Systems

- ▶ COM Express® Intel® High Performance Processor
- ▶ Expansion slots for multiple GPU, FPGA accelerators, or video modules
- ▶ Multiple I/O high speed interfaces and high capacity storage options
- ▶ Wireless connectivity options for cellular and wifi
- ▶ Ruggedized & modular platform for defense deployments

POSSIBILITIES START HERE



RUGGED, HIGH-PERFORMANCE MISSION COMPUTING

Expandable and configurable to meet demanding mission requirements

To address the rapidly increasing need for powerful and configurable mission computing platforms in defense applications, Kontron has introduced the COBALT™ S1901. Like it's cousin for the transportation market, the EvoTRAC™ S1901, the COBALT™ S1901 is a rugged, pre-qualified embedded mission computer sized specifically for tough, modern embedded computing problems such as autonomous vehicle control, 360° situational awareness, or sensor processing. Its combination of compact packaging and diverse options and scalability means the COBALT™ S1901 is an ideal fit for mission computing applications on all platforms be they air-, ground-, or sea-based.

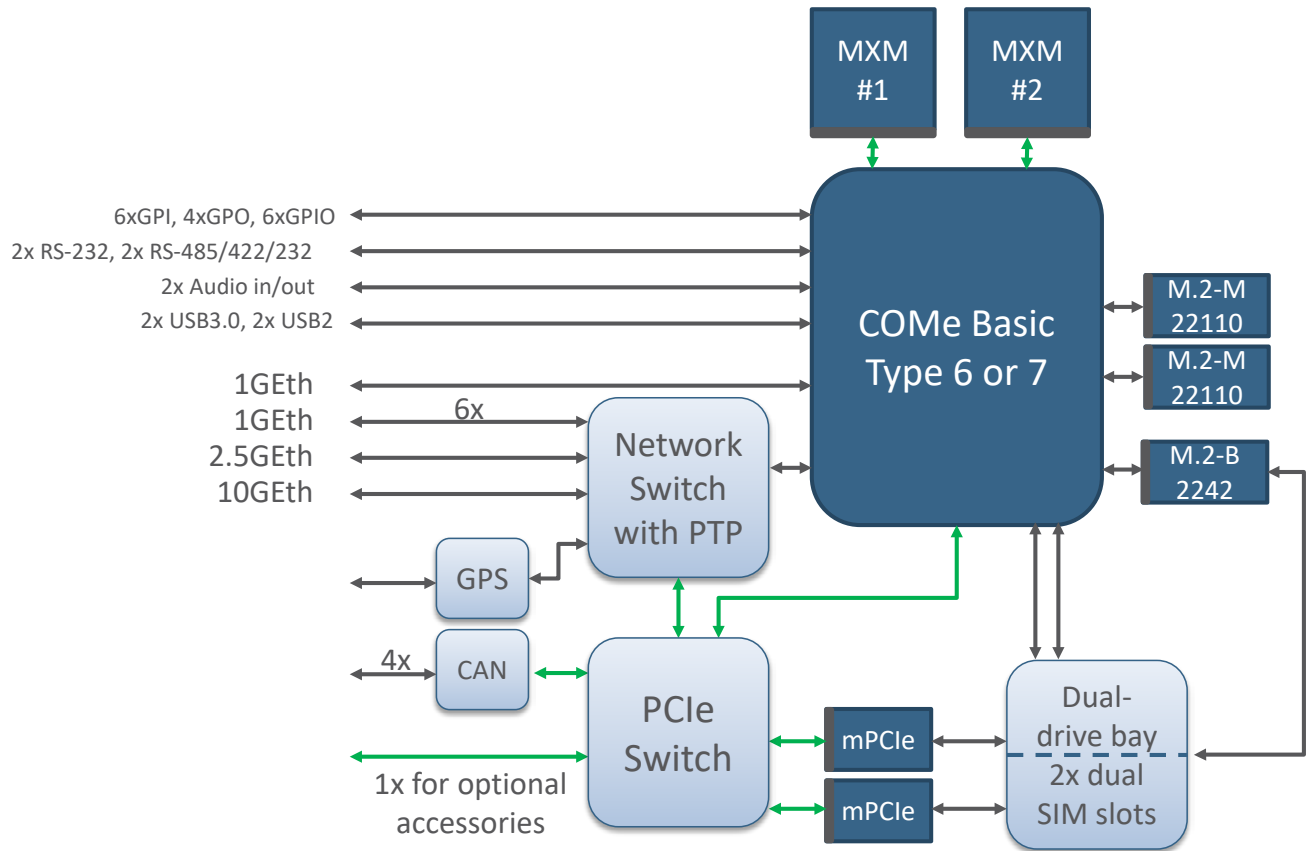
Like the earlier COBALT™ 901 series of mission computers, the COBALT™ S1901 is built on ruggedized versions of our COM Express® modules attached to a carrier and a customizable front-panel Signal Interface Board. However, the S1901 expands significantly on the capabilities of the COBALT™ 901 by offering:

- ▶ Support for both type 6 and type 7 COM Express modules
 - ▶ Two MXM sites for GPU, FPGA-based, or specialized processing modules
 - ▶ Three M.2 and two mini-PCIe sites
 - ▶ Built-in Ethernet switch
 - ▶ Built-in support for an optional CANBus or combination CAN-Bus/Safety Processor mezzanine
 - ▶ Two, larger 2.5" drive bays for removable high-density solid state drives
 - ▶ Support for a second power supply, to support Power-over-Ethernet or particularly high-power GPU options
 - ▶ An optional fan kit, for configurations drawing too much power to be cooled using passive convective/conductive cooling
- COBALT™ S1901 offers commercial off-the-shelf variants, but is easily customized to meet the particular needs of a deployed application.

▶ TECHNICAL INFORMATION

DIMENSIONS (W x D x H)	13.0" x 7.0" x 4.0"
COMe PROCESSOR	COMe-bBD7R E2 Intel® Xeon® D-1539, 8 Cores, 1.6 GHz, 64 GByte of DRAM Other processors such as COMe-bCL6 (Coffee Lake) available
MXM GPU	Two MXM sites. Various GPU options available.
STORAGE AND EXPANSION	2x 4-Lane PCIe M.2 sites 1x 1-lane PCIe/USB 3.0 M.2 site 2x mPCIe with x1 PCIe and USB 2 2x 2.5" removable SSD bays (front panel, removable SSDs sold separately)
ETHERNET PORTS	1x 10GBASE-T (Switched) 1x 2.5GBASE-T (Switched) 6x 1000BASE-T (Switched) 1x 1000BASE-T (Direct to CPU) PTP/1588 with 1PPS, GPS IEEE 802.3-2012 Power-over-Ethernet (Option)
USB	Front Panel: 1x USB 2, 3x USB 3.0
WIRELESS	(Option) Cellular connectivity WiFi connectivity
SERIAL	Front Panel: 2x RS232 (tx/rx) 2x [RS232 (rx/tx/cts/rts) or RS485/422]
INTERFACES	Dual Display Port
DISCRETES	6x GPI, 4x GPO, 6x GPIO
AUDIO	2 Balanced Audio In, 2 Balanced Audio Out
SPECIAL FEATURES	GPS and 1 PPS input/output, 4x CANBus (Option) 9 Axis IMU, Aurix TC387 MCU Safety Processor (Option)
POWER	+28 VDC (+9 VDC to +36 VDC) power input Power Consumption: up to 240 W (configuration dependent)
COOLING	Passive air/conduction cooled. Auxiliary IP67 fan kit available as a build option.
OPERATING SYSTEM	Linux Ubuntu 20.04, LTS, 64-Bit (installed) Other OS options are available. Contact factory for details.

► DIAGRAM



► ENVIRONMENTAL SPECIFICATION

COOLING METHOD	Passive convective cooling with conduction cooling through the bottom plate (no fans). Optional IP67 fan kit available.
QUALIFICATION TESTING	MIL-STD-810H, MIL-STD-1686C, MIL-STD-461F, MIL-STD-1275F, MIL-STD-704F
OPERATING TEMPERATURE	-40 °C to 71 °C ambient
STORAGE TEMPERATURE	-50 °C to 100 °C
VIBRATION (OPERATING)	5 Hz to 2000 Hz, Random, 1hr each axis, 8.21 GRMS Power Spectrum Density 40 g, 11ms sawtooth. Tested to MIL-STD-810 with a Kontron composite test profile
SHOCK (FUNCTIONAL)	40G, 11ms
ALTITUDE (OPERATING)	-1500 ft to 40,000 ft
INGRESS PROTECTION	IP67, also tested to MIL-STD-810 for liquid, freezing rain, sand, dust, salt fog, and explosive atmosphere

▶ ORDERING INFORMATION

PART NO.	DESCRIPTION
78511901-101	COMe-bBD7R E2 D-1559 (Xeon®-D, 12 cores/24 threads), T1000 GPU, CANBus (x4), 1 TByte SSD
1068-2434	1 TByte RSSD
1068-2435	2 TByte RSSD

Contact factory for additional customization options.

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